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D. E. SALMON, D. V. M., Chief of Bureau.

THE SYNONYMY

OF

Tænia, *T. crassicollis*, *T. marginata*, *T. serrata*,
T. cœnurus, *T. serialis*, and *Echinococcus*.

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U. S. DEPARTMENT OF AGRICULTURE,
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Washington, D. C., September 5, 1905.

SIR: I have the honor to submit herewith a manuscript entitled "The Synonymy of *Tænia*, *T. crassicollis*, *T. marginata*, *T. serrata*, *T. cænurus*, *T. serialis*, and *Echinococcus*," prepared by Ch. Wardell Stiles, Ph. D., consulting zoologist of this Bureau, and chief of Division of Zoology, Hygienic Laboratory, United States Public Health and Marine-Hospital Service, and Earle C. Stevenson, M. A., assistant in the Division of Zoology of this Bureau; and to recommend its publication as Bulletin No. 80 of the Bureau series.

Very respectfully,

D. E. SALMON,
Chief of Bureau.

Hon. JAMES WILSON, *Secretary.*

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THE SYNONYMY OF *TÆNIA*, *T. CRASSICOLLIS*, *T. MARGINATA*, *T. SERRATA*, *T. CŒNURUS*, *T. SERIALIS*, AND *ECHINOCOCCUS*.

It has recently been necessary to examine into the synonymy of several members of the genus *Tænia* in order to establish the correct specific names for certain species, and the results of this study are published in the present paper.

According to the present international code, the names of larval or cystic stages are coordinate with the names of adult stages, in the application of the law of priority. This rule necessitates certain changes in the names of several of the species which are mentioned in this paper.

Several of the older names, for instance some of those introduced by Gmelin, 1790a, are almost nomina nuda, being based only upon references of earlier authors to parasites in certain organs of given hosts. While it is scarcely possible at present to pass definite judgment upon certain of these cases, they have been cited in synonymy by various authors, and we have accepted these interpretations on the ground that we can not prove them to be incorrect.

The bibliographic references are from Stiles & Hassall, Index-Catalogue of Medical and Veterinary Zoology, Bulletin 39, United States Bureau of Animal Industry.

GENUS *TÆNIA* LINNÆUS, 1758.

Type, *Tænia solium*. For synonymy, see subgenera *Tænia* (below) and *Tæniarhynchus* (p. 12).

SUBGENUS *TÆNIA* LINNÆUS, 1758.

1758. *Tænia* LINNÆUS, 1758a, 819-820; type by elimination *T. solium*; also designated type by several authors.
1777. *Tænia* SCOPOLI, 1777, 383; for *Tænia*, hence same type (not accessible, reference taken from Sherborn, 1902, 962).
1782. *Hydatigena* GOEZE, 1782a, 42, 192; type by absolute tautonymy, *Tænia hydatigena* Pallas, 1766, 413, confined by elimination and inclusion to *Hydra hydatula* Linneus, 1766, equals *Cysticercus tenuicollis*.
1782. *Megocephalos* GOEZE 1782a, 42; only hence type species *Tænia vesicularis fasciolata*, equals *Cysticercus fasciolaris*.
1782. ?*Pseudoechinorhynchus* GOEZE, 1782a, 41, 138-139; ?type *Ps. sp.* Goeze, 1782a, 138-139, equals ? *Cysticercus fasciolaris*.
1786. *Finna* WERNER, 1786, 10; not used in Linnean sense; refers to *Cysticercus cellulosa*.

1787. *Vesicaria* MÜLLER, 1787, 49-53; includes *Hydatigena*, *Megocephalos*, *Multiceps*, 1782, and other forms; type by inclusion *Cysticercus tenuicollis*.
1788. *Vesicaria* SCHRANK, 1788a, 29-32; includes *Hydatigena*, *Megocephalos*, and *Multiceps*, 1782, renamed; type by inclusion and page precedence *V. orbicularis*, equals *Cysticercus tenuicollis*; also type by virtual tautonymy *Hydatigena vesicularis*, equals *Cysticercus tenuicollis*.
1790. *Hydatula* ABILDGAARD, 1790a, 33; type by absolute tautonymy *Hydra hydatula*.
1790. ? *Hæruca* GMELIN, 1790a, 3050; only hence type species *H. muris* Gmelin = ? *Cysticercus fasciolaris*.
1797. *Hydatis* BLUMENBACH, 1797, 415; not accessible, apparently, only hence type species *H. finna*; see Sherborn, 1902, 369, and Virey, 1798.
1800. *Alyselminthus* ZEDER, 1800a, 221-302; *Tænia* renamed, hence same type.
1800. *Cysticercus* ZEDER, 1800a, 303-307; *Hydatigena* renamed, hence same type.
1803. *Halysis* ZEDER, 1803a, 298-377; *Tænia* and *Alyselminthus* renamed, hence same type.
1805. *Cistircerus* RUDOLPHI, 1805, 40; for *Cysticercus*, hence same type.
1809. *Finna* BRERA, 1809a, 153; type *muscularis*, equals *Cysticercus cellulosæ*.
1809. *Physchiosoma* BRERA, 1809a, 130-149; type by inclusion *P. globosum* (Batsch, 1786), equals *Cysticercus cellulosæ*.
1810. *Gaziana* RUDOLPHI, 1810a, 277; refers to *Cysticercus cellulosæ*; doubtful whether it is used in generic sense.
1816. *Hydatigera* LAMARCK, 1816, 153-154; type by inclusion and page precedence, *Cysticercus fasciolaris*.
1825. *Fischiosoma* DELLE CHIAJE, 1825a, 24; for *Physchiosoma* Brera, 1809a.
1847. *Trachelocampylus* FRÉDAULT, 1847b, June, 310-311; only hence type species *Cysticercus cellulosæ*.
1850. *Arhynchotænia* DIESING, 1850a, 497-521; type by inclusion, *Tænia solium*.
1855. *Halisis* GOLDBERG, 1855a, 78; misprint for *Halysis*.
1855. *Hidatula* GOLDBERG, 1855a, 79; misprint for *Hydatula*.
1855. *Cysticercus* GOLDBERG, 1855a, 88; misprint for *Cysticercus*.
1858. *Acanthotrias* WEINLAND, 1858, 51, 65, 85; only hence type species and type by absolute tautonymy, *Cysticercus acanthotrias*.
1863. *Cystotænia* LEUCKART, 1863, 223; type by inclusion, *Tænia solium*.
1886. *Neotænia* SODERO, 1886, Oct., 657; type by inclusion and implication, *Cysticercus cellulosæ*.
1894. *Neotænia* BRAUN, 1894a, 1085; for *Neotænia*, hence same type.
- (?) *Cysticerkus* and *Cystizerkus* of various German authors; for *Cysticercus*, hence same type.

SPECIES **TÆNIA HYDATIGENA** PALLAS, 1766.

STROBILA STAGE.

1758. *Tænia solium* LINNÆUS, 1758a, 819-820, pro parte; Dubois, 1764, 66-69, pl. 1, fig. 1a.
1782. *T. cateniformis* GOEZE, 1782a, in part, 307-310, pl. 22a, figs. 1-5, from wolf. [*T. cateniformis* drops as synonym of *T. canina* Linnæus, 1758.]
- 1782.? *T. serrata* GOEZE, 1782a, in part, 349-350, pl. 25b, figs. a-d; see, however, Rudolphi, 1810a, 170, and Diesing, 1850a, 517-518.
1786. *T. marginala* BATSCH, 1786a, 125-126, pl. 2, fig. 54; based on Goeze, 1782a, 307, pl. 22a, figs. 1-5.
1788. *T. lupina* SCHRANK, 1788, 33; based on same as *T. marginala*.
1790. *T. cateniformis lupi* GMELIN, 1790a, 3066-3067; based on same as *T. marginala*.
1803. *Halysis marginala* (BATSCH, 1786a) ZEDER, 1803a, 365-366.

CYSTIC STAGE.

1691. *Lumbricus hydropicus* TYSON, 1691, 506-509, pl., figs. 1-4; from gazelle or antelope, from Aleppo; pre-Linnæan, hence not entitled to priority, but used as basis of several post-Linnæan names.
1705. *Vermes vesiculares* HARTMANN, 1705b, 152-157, from goat; pre-Linnæan, hence not entitled to priority, but used in generic sense by Bloch, 1780a and 1782a.
1760. *Tænia hydatidea* PALLAS, 1760, 50, not accessible; reprint, 1768, 286-288; *Lumbricus hydropicus* 1691 renamed; accidentally binomial in a clearly polynomial article, hence not entitled to priority, in our opinion.
1766. *Tænia hydatigena* PALLAS, 1766, 413, not accessible; 1766, 157-174, pl. 12, figs. 1-10, includes *Lumbricus hydropicus*.
1767. *Hydra hydatula* LINNÆUS, 1767, 1320; *Lumbricus hydropicus* renamed.
1780. *Vermis vesicularis eremita* BLOCH, 1780a, 337; 1782a, 24-25; *Hydra hydatula* renamed; *Vermis vesicularis* used as a generic name, *eremita* as a specific name.
1782. *Hydatigena orbicularis* GOEZE, 1782a, 194-210, pl. 17a, figs. 1-5, pl. 17b, figs. I-II, 6-9; includes *Hydra hydatula*, 1767.
1786. *H. globosa* BATSCH, 1786a, 89-94, figs. 38-41; includes *Hydra hydatula*, 1767.
1786. *H. oblonga* BATSCH, 1786a, 98-99; based on Goeze, 1782a, pl. 17b, figs. I-II.
1788. *Vesicaria orbicularis* (GOEZE, 1782a) Schrank, 1788, 29.
1790. *Tænia simiæ* GMELIN, 1790a, 3059; based on Bloch, 1782a, 24.
1790. *T. ferarum* GMELIN, 1790a, 3061; includes Goeze, 1782a, 205-206, pl. 17b, figs. I-II.
1790. *T. caprina* GMELIN, 1790a, 3061; includes *Vermes vesiculares* Hartmann, 1705.
1790. *T. ovilla* GMELIN, 1790a, 3061-3062; based on Goeze, 1782a, 257, pl. 17, figs. 10-11.
1790. *T. vervecina* GMELIN, 1790a, 3062; based on Goeze, 1782a, 208, pl. 17a, figs. 3-5.
1790. *T. bovina* GMELIN, 1790a, 3063; based on Goeze, 1782a, 205.
1790. *T. apri* GMELIN, 1790a, 3063; in apri hepate.
1790. *T. globosa* (BATSCH, 1786a) Gmelin, 1790a, 3063.
1790. ? *Hydatula lienis* GMELIN, 1790a, 3063, in synonymy; from hog.
1790. ? *H. pulmonis* GMELIN, 1790a, 3063, in synonymy; from hog.
1790. *H. hepatis* GMELIN, 1790a, 3063, as syn. of *T. globosa*.
1790. *H. cervorum* GMELIN, 1790a, 3063, as syn. of *T. ferarum*.
1790. *H. peritonæi* GMELIN, 1790a, 3063, as syn. of *T. globosa*.
1795. *H. solitaria* VIBORG, 1790, 241; not accessible; see Diesing, 1850a, 488.
1803. *Cysticercus clavatus* ZEDER, 1803a, 409-410; *Hydatigena orbicularis* Goeze, 1782a, 205; 209, pl. 17b, figs. I-II, renamed.
1803. *C. globosus* (BATSCH, 1786a) ZEDER, 1803a, 411-413.
1803. *C. simiæ* (GMELIN, 1790a) ZEDER, 1803a, 419.
1803. *C. caprinus* (GMELIN, 1790a) ZEDER, 1803a, 420.
1804. *C. lineatus* LÆNNEC, 1804, 133; 1812, 23-46, 159-160, pl. 1, figs. 1-9, pl. 2, figs. 1-5, 6; *Hydra hydatula* 1767 renamed.
1809. *Physchiosoma globosum* (BATSCH, 1786a) BRERA, 1809a, 130-137; 1810a, pl. 3, fig. 5.
1810. *Cysticercus tenuicollis* RUDOLPHI, 1810a, 220-224; *Hydra hydatula* 1767 renamed.
1810. *C. visceralis simiæ* RUDOLPHI, 1810a, 234; *Tænia simiæ* Gmelin, 1890a, renamed.
1812. *Tænia visceralis, vesicularis, orbicularis* GOEZE, 1782a, of Lænnec, 1812, 160, as syn. of *Cysticercus lineatus*.
1812. *T. hydatigena ovium* PALLAS of Lænnec, 1812, 160, as syn. of *Cysticercus lineatus*.
1812. *T. hydatigena suum* PALLAS of Lænnec, 1812, 160, as syn. of *Cysticercus lineatus*.
1816. *Hydatis globosa* (BATSCH, 1786a) LAMARCK, 1816, 152; in swine.
1825. *Fischiosoma globosum* BRERA of delle Chiaje, 1825a, 24-25.
1850. *Tænia ferrarum* GMELIN, 1790a, of Diesing, 1850a, 488; for *T. ferarum*.

1854. *Cysticercus hominis dubius* DIESING, 1854b, 601.
 1861. *C. ex potamochoero penicillato* COBBOLD, 1861d, 94, 96, pl. 17, figs. 3-5.
 1861. *C. potamochoeri penicillati* COBBOLD, 1861e, 121.
 1861. *C. potamochoeri* COBBOLD, 1861e, 125.
 1864. *C. tenuicollis hominis* ESCHRICHT of Diesing, 1864a, 391.
 1869. *C. ovis* COBBOLD, 1869a, 30, fig. 2.
 1873. *C. ovipariens* MADDOX, 1873, 250, pl. 17, figs. 1-17, pl. 19, 1 fig.; in leg of mutton.
 1878. *C. phacochoeri aethiopici* COBBOLD of Linstow, 1878, 5.
 1885. *Cisticercus ovis* (COBBOLD, 1869) GUZZARDI ASMUNDO, 1885a, 579.

SPECIES **TÆNIA TENIÆFORMIS** (BLOCH, 1780) STILES & STEVENSON, 1905.

[Type of *Megocephalos*, 1782; ? *Hæruca*, 1790; and *Hydatigera*, 1816.]

STROBILA STAGE.

1782. *Tænia collo brevissimo* BLOCH, 1782a, 19-20, pl. 6, figs. 1-5, in cats; not binomial, hence not entitled to priority.
 1782. *T. serrata* GOEZE, 1782a, 43, 337-339, pl. 24, figs. 1-6, pl. 25, figs. 1-5, from cat; Batsch, 1786a, 138-141, figs. 19, 32, 61, 63, 67; not Rosa, 1794. Goeze's name is clearly based upon the tapeworm (now generally known as *Tænia crassicollis*) from cats, and not (as generally supposed) upon the tapeworm from dogs.
 1782. ? *T. globulata* GOEZE, 1782a, 43, 350-352, pl. 26, figs. 1-4, from cats.
 1786. ? *T. moniliformis* BATSCHE, 1786a, 135-137, fig. 59; *T. globulata* Goeze, renamed; not *T. moniliformis* PALLAS, 1781 (not accessible).
 1790. *T. serrata felis* GMELIN, 1790a, 3068, includes *T. collo brevissimo* Bloch, 1782, and *T. serrata* Goeze, 1782a, pl. 24, figs. 1-6, pl. 25, figs. 1-5; Rudolphi, 1793a, 37-38.
 1794. *T. felis* GMELIN of Carlisle, 1794a, 258, pl. 25, fig. 11.
 1800. *Alyselminthus serratus* (GOEZE, 1782a) ZEDER, 1800a, 290, 286-293.
 1803. *Halysis serrata* (GOEZE, 1782a) ZEDER, 1803a, 363-364.
 1810. *Tænia crassicollis* RUDOLPHI, 1810a, 173-174; *T. serrata* Goeze, 1782a, from cat, renamed.
 1810. *T. serrata a, cati domest. b, sylvestr.* SCHRANK of Rudolphi, 1810a, 174, as synonym.
 1810. *Halysis serrata* (GOEZE, 1782a) RUDOLPHI, 1810a, 174; misprint.
 1855. *Halysis serrata* (ZEDER) of Goldberg, 1855a, 78; misprint in synonymy.
 1861. *Tænia crassicollis* KÆBERLÉ, 1861, 332; for *T. crassicollis*.

CYSTIC STAGE.

1695. *Vermis vesicularis muris* HARTMANN, 1695b, 304-305; Pre-Linnæan, hence not entitled to priority, but *Vermis vesicularis* is later used by Bloch, 1780a and 1782a, as generic name.
 1762. *Fasciola muris hepaticæ* RÖDERER, 1762, 537-539; not accessible; polynomial, hence not entitled to priority.
 1766. *Tænia hydatigena* PALLAS, 1766, 157-174, pro parte, pl. 12, figs. 10-13, in rats.
 1766. *T. hydatigena murini hepatis* PALLAS, 1766, 168; polynomial.
 1780. *Vermis vesicularis teniæformis* BLOCH, 1780a, 337; 1782a [Inhalt, p. 2], 23; *Vermis vesicularis* distinctly used as a generic name, *teniæformis* as a specific name.
 1781. *Fasciola* sp. MERREM, 1781, 169-172, pl. 1, figs. 3-7; "Sack-Egel."
 1782. *Fasciola saccata* MERREM, 1781, of Goeze, 1782a, 221, in synonymy.
 1782. *Megocephalos* GOEZE, 1782a, 42; type *Tænia vesicularis fasciolata*.
 1782. *Tænia (Hydatigena) vesicularis fasciolata* GOEZE, 1782a, 220-247, pl. 18b, figs. 10-14, pl. 19, figs. 1-14, type of *Megocephalos* 1782.

1782. ? *Pseudoechinorhynchus* sp. GÖEZE, 1782a, 138–139, pl. 9b, fig. 12.
 1782. *Tenia hydatigena* WERNER, 1782, 13–17; for *Vermis vesicularis teniæformis* 1780.
 1782. *T. vesicularis teniæ formis* BLOCH of Werner, 1782, 13.
 1786. *Vermis vesicularis teniæformis* BLOCH of Batsch, 1786a, 100, in synonymy.
 1786. *Hydatigena teniæformis* BATSCH, 1786a, 100–106, figs. 12–16, 18, 20, 29–30, 46–47, 49.
 1788. ? *Echinorhynchus muris* SCHRANK, 1788, 21; based on *Pseudoechinorhynchus* sp. 1782.
 1788. *Vesicaria teniæformis* (BATSCH, 1786a) SCHRANK, 1788, 30.
 1790. ? *Hæruca muris* (SCHRANK, 1788) Gmelin, 1790a, 3050.
 1790. *Tenia murina* GMELIN, 1790a, 3060, not Dujardin, 1845a; *Hydatigena teniæformis* BATSCH, 1786a, renamed.
 1790. *T. hydatigena* GMELIN, 1790a, 3060; based on Batsch, 1786a, 100, fig. 46.
 1790. *T. vespertilionis* GMELIN, 1790a, 3060; based on Bloch, 1780a, 337.
 1793. *Vesicaria muris* SCHRANK, 1793, 135, not accessible; see Diesing, 1850a, 492.
 1795. *Hydatula macrocephala hepatis musculi* VIBORG, 1795, 241; not accessible; polynomial; see Diesing, 1850a, 492.
 1801. ? *Echinorhynchus hæruca* LAMARCK, 1801, 336; for *Pseudoechinorhynchus* sp. GÖEZE, 1782.
 1802. ? *E. hæruce* BOSC, 1802, 4; for *E. hæruca* LAMARCK.
 1803. *Cysticercus teniæformis* (BATSCH, 1786a) ZEDER, 1803a, 405–406, pl. 4, fig. 6.
 1808. *C. fasciolaris* RUDOLPHI, 1808a, 118–119; 1810a, 215–218.
 1812. *Hydatis murina* BOSC of Lænnec, 1812, 157, in synonymy.
 1812. *H. hydatigena* BOSC of Lænnec, 1812, 157, in synonymy.
 1812. *Tenia visceralis vesicularis teniæformis* GÖEZE, 1782, of Lænnec, 1812, 157, in synonymy.
 1816. *T. vesicularis fasciolata* GÖEZE, 1782a, of Lamarck, 1816, 154, in synonymy.
 1816. *Hydatigera fasciolaris* (RUDOLPHI, 1808a) LAMARCK, 1816, 154.
 1850. *Hydatigena fasciolaris* (RUDOLPHI, 1810a) DIESING, 1850a, 492, in synonymy.
 1850. *Hydatigena hepatis murini* GÖEZE, 1782, of Diesing, 1850a, 489, in synonymy.
 1861. *Cysticercus crassicolis (fasciolaris)* KÆBERLÉ, 1861a, 332.

SPECIES **TÆNIA PISIFORMIS** (BLOCH, 1780) GMELIN, 1790.

STROBILA STAGE.

1782. ? *Tenia canina solium* WERNER, 1782, 56, figs. 70–76; see Rudolphi, 1810a, 169, and Diesing, 1850a, 517.
 1786. ? *T. cucurbitina γ [canis]* BATSCH, 1786a, 123–125; for *T. canina solium* Werner, 1782.
 1790. ? *T. cucurbitina* GMELIN, 1790a, 3067; for *T. canina solium* Werner, 1782.
 1793. ? *T. serrata canis domestici et vulpis* RUDOLPHI, 1793a, 37; see Rudolphi, 1810a, 170.
 (?) "*T. serrata* GÖEZE" of most recent authors since Küchenmeister.
 1861. "*Tenia serrata* GÖEZE" of van Beneden, 1861a, 148–157, pl. 20.

CYSTIC STAGE.

1780. *Vermis vesicularis pisiformis* BLOCH, 1780a, 338; 1782a, 25; *Vermis vesicularis*, used as generic name, *pisiformis* as a specific name.
 1782. *Hydatigena pisiformis* (BLOCH, 1780a) GÖEZE, 1782a, 210–219, pl. 18a, figs. 1–3, pl. 18b, figs. 4–7, in rabbits.
 1782. *H. utriculenta* GÖEZE, 1782a, 219–220, pl. 18b, figs. 8–9, in rabbits.
 1786. *H. cordata* BATSCH, 1786a, 94–96, figs. 42–43; based on Goeze, 1782a, pl. 18b, figs. 6–7, and p. 236, pl. 18b, figs. 15–17.
 1786. *H. utricularis* BATSCH, 1786a, 99–100; *H. utriculenta* Goeze, 1782a, renamed.
 1788. *Vesicaria pisiformis* (BLOCH, 1780a) SCHRANK, 1788, 30.
 1788. *V. utriculenta* (GÖEZE, 1782a) SCHRANK, 1788, 30.

1790. *Tænia pisiformis* (BLOCH, 1780a) GMELIN, 1790a, 3061.
 1790. *T. utricularis* (BÄTSCH, 1786a) GMELIN, 1790a, 3061.
 1790. *T. cordata* (BÄTSCH, 1786a) GMELIN, 1790a, 3061.
 1790. ? *T. putorii* GMELIN, 1790a, 3060, based on Goeze, 1782a, 206, from the iltis; compare *Cysticercus cordatus* Tschudi, 1837.
 1802. *Hydatula pisiformis* (BLOCH, 1782a) FROELICH, 1802a, 75-77.
 1803. *Cysticercus pisiformis* (BLOCH, 1780a) ZEDER, 1803a, 410-411.
 1803. ? *C. putorii* (GMELIN, 1790a) ZEDER, 1803a, 420.
 1804. *C. utriculentus* (GOEZE, 1782a) LÆNNÉC, 1804, 136; 1812, 162-163.
 1812. *C. lineatus pisiformis* (BLOCH, 1780a) LÆNNÉC, 1812, 160-161.
 1816. *Hydatid pisiformis* (BLOCH, 1780a) LAMARCK, 1816, 152-153.
 1830. ? *Monostoma leporis* KUHN, 1830?, 464, pl. 11, figs. 6-7; not accessible.
 1837. ? *Cysticercus cordatus* TSCHUDI, 1837, 59, pl. 2, figs. 13-16.
 1842. *C. elongatus* F. S. LEUCKART, 1842, 1-3, pl. 1, figs. 1a-c, from *Lepus cuniculus*; not Blumberg, 1882a, from cats and dogs.
 1850. *Monostomum leporis* (KUHN, 1830?) DIESING, 1850a, 330.
 1850. *Hydatigena hepatis murini* DIESING, 1850a, 489, in synonymy; based on Goeze, 1782a, 236, pl. 18b, figs. 15-17.
 1861. *Cysticercus serratus* (*pisiformis*) KÆBERLÉ, 1861a, 328, 329, 332, 333.
 1861. "*C. pisiformis* DIESING" of Beneden, 1861a, 148.

SUBGENUS **TÆNIARHYNCHUS** WEINLAND, 1858.

1823. *Pentastoma* VIREY, 1823, 219-220 (not Rudolphi, 1819); only hence type species *P. coarctata* equals *Tænia saginata*.
 1858. *Tæniarhynchus* WEINLAND, 1858, 46-51; only hence type species *Tænia medio-canellata* equals *saginata*.

The status of *Tæniarhynchus* is still *sub judice*, but from the fact that new species of *Tænia* without hooks are being described the indications seem to be in favor of recognizing this group as a subgenus. At present this subgenus is possibly rather artificial, but somewhat convenient.

GENUS **MULTICEPS** GOEZE, 1782.

1782. *Multiceps* GOEZE, 1782a, 42, 192, 250. Only hence type species *Tænia vesicularis* equals *socialis* 1780; in brain of sheep.
 1800. *Polycephalus* ZEDER, 1800a, 308-316; *Multiceps*, renamed; hence type *socialis* 1780a.
 1808. *Cænurus* RUDOLPHI, 1808a, 120-122; *Multiceps* and *Polycephalus*, renamed; hence type *socialis* 1780a.
 1825. *Cænurus* CUVIER, 1825a, 90; for *Cænurus*.
 1844. *Canurus* GOODSIR, 1844g, 570; misprint for *Cænurus*.

Opinion may differ as to whether this group should be given generic or subgeneric rank. Personally we see no serious argument against recognizing a distinct genus on basis of the "larval" stage.

SPECIES **MULTICEPS SOCIALIS** (BLOCH, 1780a) STILES & STEVENSON, 1905.

STROBILA STAGE.

1853. *Tænia cænurus* KÜCHENMEISTER, 1853, 449.
 1861. *T. cænura* of KÆBERLÉ, 1861a, 183.
 1861. *T. cænara* of KÆBERLÉ, 1861a, 332; misprint.

1861. *Tenia cœnurus* (KÜCHENMEISTER, 1853) VAN BENEDEN, 1861a, 146-148.
 1861. *T. canurus* VAN BENEDEN, 1861a, 144; misprint.
 1863. *T. [(Cystotænia)] cœnurus* KÜCHENMEISTER, of Leuckart, 1863, 224.

CYSTIC STAGE.

1780. *Vermis vesicularis socialis* BLOCH, 1780a, 337; 1782a, 25-26; *Vermis vesicularis* used as generic name, *socialis* used as specific name. See also Gœze, 1782a, 294, as syn. of *Tænia vesicularis*; Batsch, 1786a, 84, as syn. of *Hydatigena socialis*; Schrank, 1788, 31, as syn. of *Vesicaria socialis*; Gmelin, 1790a, 3062, as syn. of *Tænia cerebralis*; Zeder, 1800a, 305, 308, as syn. of *Polycephalus*; Zeder, 1803a, 430-431, as syn. of *Polycephalus ovinus*; Rudolphi, 1810a, 243, as syn. of *Cœnurus cerebralis*.
 1782. *Tenia vesicularis* GœZE, 1782a, 248; for *Vermis vesicularis socialis* Bloch.
 1782. *T. vesicularis cerebrina* GœZE, 1782a, 42, 192; for *Vermis vesicularis socialis* Bloch.
 1782. *Multiceps* GœZE, 1782a, 42, 192, 250; type *Tænia vesicularis cerebrina*.
 1786. *Hydatigena cerebralis* BATSCH, 1786a, 84-87, figs. 34-36; *Vermis vesicularis socialis* Bloch, 1780a; renamed.
 1788. *Vesicaria socialis* (BLOCH, 1780a) SCHRANK, 1788, 31-32.
 1790. *Tenia cerebralis* (BATSCH, 1786a) GMELIN, 1790a, 3062.
 1800. *T. visceralis multiceps* GœZE, 1782 of Zeder, 1800a, 305.
 1800. *Polycephalus* ZEDER, 1800a, 308-316; *Multiceps* Gœze, 1782a, renamed.
 1802. *Tenia multiceps* (ZEDER, 1800a) RUDOLPHI, 1802, 207.
 1803. *Polycephalus ovinus* ZEDER, 1803a, 430-431.
 1803. *P. bovinus* ZEDER, 1803a, 431.
 1808. *Cœnurus cerebralis* (BATSCH, 1786a) RUDOLPHI, 1808a, 120-122.
 1812. *Polycephalus cerebralis* (BATSCH, 1786a) LÆNNÉC, 1812, 168-169.
 1816. *Hydatis cerebralis* (BATSCH, 1786a) BLUMENBACH, 1816a, 13.
 1825. *Cœnurus cerebralis* (BATSCH, 1786a) CUVIER, 1825a, 90.
 1837. *Polycephalus cœnurus* TSCHUDI, 1837, 45-49.
 1855. *Hidatula cerebralis* (BATSCH) of Goldberg, 1855a, 79; in synonymy.
 1861. *Cysticercus cœnurus* (KÜCHENMEISTER, 1853) KÖBERLÉ, 1861a, 183.

SPECIES **MULTICEPS SERIALIS** (GERVAIS, 1845 or 1847) STILES & STEVENSON 1905.

STROBILA STAGE.

1863. *Tenia serialis* (GERVAIS, 1845 or 1847) BAILLET, 1863, 452-482.
 1864. *T. cœnuri cuniculi* DIESING, 1864a, 393; in synonymy.

CYSTIC STAGE

1847. *Cœnurus serialis* GERVAIS, 1847a, 98; probably 1845, 729, not accessible to us.
 1864. *Cœnurus cerebralis leporis cuniculi* DIESING, 1864a, 394; in synonymy.
 1877. *Cœnurus serialis* (GERVAIS, 1847) DAVAINÉ, 1877a, xxxviii; misprint.

GENUS **ECHINOCOCCUS** RUDOLPHI, 1801.

1782. *Hydatis* GœZE, 1782a, 192; very doubtful whether this is used in a generic sense; in synonymy.
 1801. *Echinococcus* RUDOLPHI, 1801, 52-53; includes *Tenia multiceps* [type of *Multiceps* 1782 and *Polycephalus* 1800] and *Tænia visceralis socialis granulosa* Gœze, 1782, hence it is a deliberate renaming of a genus for which two names were already available, but Rudolphi definitely mentions "die körnigen Blasenwürmer" (namely, *granulosa*) as basis of *Echinococcus*, hence this is the type species; see also Rudolphi, 1802, 204.

1804. *Acephalocystis* LÆNNÉC 1804, 132, 134-135; 1812, 96-123, 130-155, 170-173; type apparently *Echinococcus granulosus*, by inclusion.
1819. *Liococcus* BREMSER, 1819a, 249; type *Echinococcus hominis*, genus not adopted by Bremser, 1819a.
1819. *Splanchnococcus* BREMSER, 1819a, 249; *Echinococcus* renamed, hence same type.
1821. *Acephalocystus* LÆNNÉC of Merat, 1821, 229; for *Acephalocystis* 1904, hence same type.
1829. *Acephalocistis* CRUVEILHIER, 1829a, 198; for *Acephalocystis* 1804, hence same type.
1829. ?? *Acrostoma* LESAUVAGE, 1829, 433-438; only hence type species, *A. amnii*; probably pathological structure of amnion.
1844. ? *Asstoma* GOODSIR, 1844d, 282; only hence type species *A. acephalocystis* Goodsir.
1844. ? *Diskostoma* GOODSIR in Gairdner, 1844a, 276; only hence type species *D. acephalocystis* Goodsir.
- 1844 ?. ? *Sphæridion* GOODSIR; not accessible; see Gervais, 1847a, 92.
1856. *Echinokokkus* BUHL, 1856a, 429; for *Echinococcus*, hence same type.
1858. *Echinococcifer* WEINLAND, 1858, 52, 61, 85; type *Tania echinococcus*.
1894. ? *Discostoma* BRAUN, 1894a, 982; for *Diskostoma* Goodsir, 1844, hence same type.